

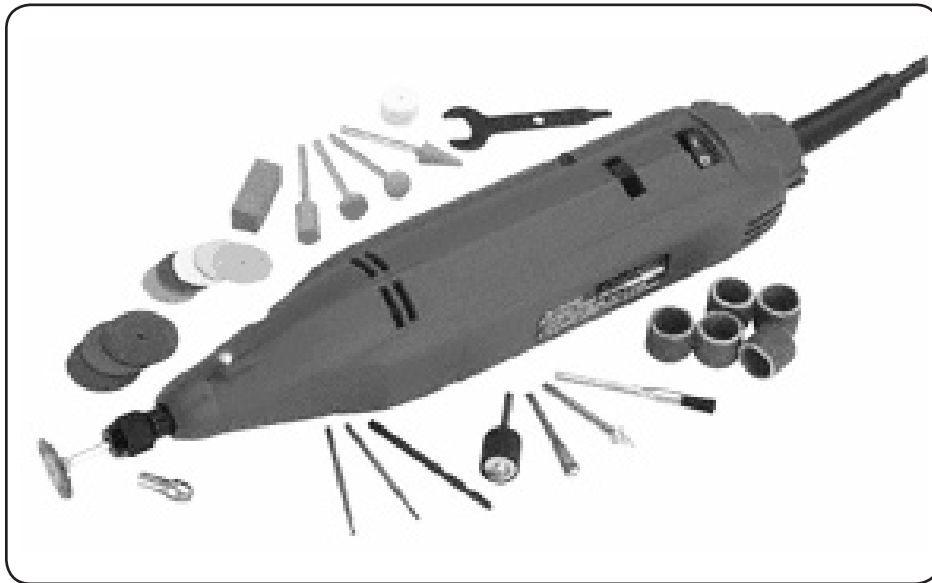
CHICAGO

Electric[®]Power Tools

ROTARY TOOL KIT - 4 SPEED

Model 40457

ASSEMBLY AND OPERATING INSTRUCTIONS



Visit our website at: <http://www.harborfreight.com>



**Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.**

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For technical questions or replacement parts, please call 1-800-444-3353.

SAVE THIS MANUAL

Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

IMPORTANT SAFETY INFORMATION

In this manual, on the labeling, and all other information provided with this product:



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

CAUTION

CAUTION, without the safety alert symbol, is used to address practices not related to personal injury.

General Power Tool Safety Warnings



WARNING Read all safety warnings and instructions. *Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.* Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1. **Work area safety**
 - a. **Keep work area clean and well lit.** *Cluttered or dark areas invite accidents.*
 - b. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** *Power tools create sparks which may ignite the dust or fumes.*
 - c. **Keep children and bystanders away while operating a power tool.** *Distractions can cause you to lose control.*
2. **Electrical safety**
 - a. **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with grounded power tools.** *Unmodified plugs and matching outlets will reduce risk of electric shock.*
 - b. **Do not expose power tools to rain or wet conditions.** *Water entering a power tool will increase the risk of electric shock.*
 - c. **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** *Damaged or entangled cords increase the risk of electric shock.*
 - d. **When operating a power tool outdoors, use an extension cord suitable for**

outdoor use. *Use of a cord suitable for outdoor use reduces the risk of electric shock.*

- e. **If operating a power tool in a damp location is unavoidable, use a Ground Fault Circuit Interrupter (GFCI) protected supply.** *Use of a GFCI reduces the risk of electric shock.*

3. **Personal safety**

- a. **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** *A moment of inattention while operating power tools may result in serious personal injury.*
- b. **Use safety equipment. Always wear eye protection.** *Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.*
- c. **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** *Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.*
- d. **Remove any adjusting key or wrench before turning the power tool on.** *A wrench or a key left attached to a rotating part of the power tool may result in personal injury.*
- e. **Do not overreach. Keep proper footing and balance at all times.** *This enables better control of the power tool in unexpected situations.*
- f. **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** *Loose clothes, jewelry or long hair can be caught in moving parts.*
- g. **Only use safety equipment that has been approved by an appropriate standards agency.** *Unapproved safety equipment may not provide adequate protection. Eye protection must be ANSI-approved and*

breathing protection must be NIOSH-approved for the specific hazards in the work area.

4. **Power tool use and care**

- a. **Do not force the power tool. Use the correct power tool for your application.** *The correct power tool will do the job better and safer at the rate for which it was designed.*
- b. **Do not use the power tool if the switch does not turn it on and off.** *Any power tool that cannot be controlled with the switch is dangerous and must be repaired.*
- c. **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** *Such preventive safety measures reduce the risk of starting the power tool accidentally.*
- d. **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** *Power tools are dangerous in the hands of untrained users.*
- e. **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** *Many accidents are caused by poorly maintained power tools.*
- f. **Keep cutting tools sharp and clean.** *Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.*
- g. **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** *Use of the power tool for operations different from those intended could result in a hazardous situation.*

5. **Service**
 - a. **Have your power tool serviced by a qualified repair person using only identical replacement parts.** *This will ensure that the safety of the power tool is maintained.*

Safety Warnings Common for Grinding, Sanding, Polishing, or Abrasive Cutting Operations

1. **This power tool is intended to function as a grinder, sander, polisher or cut-off tool. Read all safety warnings, instructions, illustrations and specifications provided with this power tool.** Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.
2. **Do not use accessories which are not specifically designed and recommended by the tool manufacturer.** Just because the accessory can be attached to your power tool, it does not assure safe operation.
3. **The rated speed of the accessory must be at least equal to the maximum speed marked on the power tool.** Accessories running faster than their RATED SPEED can break and fly apart.
4. **The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool.** Incorrectly sized accessories cannot be adequately guarded or controlled.
5. **The shank of the accessories used must properly fit the Collet of the power tool.** Accessories with arbor holes that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.
6. **Do not use a damaged accessory. Before each use inspect the accessory such as abrasive wheels for chips and cracks, backing pad for cracks, tear or excess wear. If power tool or accessory is dropped, inspect for damage or install an undamaged accessory. After inspecting and installing an accessory,**
position yourself and bystanders away from the plane of the rotating accessory and run the power tool at maximum no-load speed for one minute. Damaged accessories will normally break apart during this test time.
7. **Wear personal protective equipment. Depending on application, use face shield, safety goggles or safety glasses. As appropriate, wear dust mask, hearing protectors, gloves and workshop apron capable of stopping small abrasive or work piece fragments. The eye protection must be capable of stopping flying debris generated by various operations.** The eye protection must be capable of stopping flying debris generated by various operations. The dust mask or respirator must be capable of filtering out particles generated by your operation. Prolonged exposure to high intensity noise may cause hearing loss.
8. **Keep bystanders a safe distance away from work area. Anyone entering the work area must wear personal protective equipment.** Fragments of work piece or of a broken accessory may fly away and cause injury beyond immediate area of operation.
9. **Position the cord clear of the spinning accessory.** If you lose control, the cord may be cut or snagged and your hand or arm may be pulled into the spinning accessory.
10. **Never lay the power tool down until the accessory has come to a complete stop.** *The spinning accessory may grab the surface and pull the power tool out of your control.*
11. **Do not run the power tool while carrying it at your side.** *Accidental contact with the spinning accessory could snag your clothing, pulling the accessory into your body.*
12. **Regularly clean the power tool's air vents.** *The motor's fan will draw the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.*

13. **Do not operate the power tool near flammable materials.** *Sparks could ignite these materials.*
14. **Do not use accessories that require liquid coolants.** *Using water or other liquid coolants may result in electrocution or shock.*
15. **Maintain labels and nameplates on the tool.** These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
16. **Avoid unintentional starting.** Prepare to begin work before turning on the tool.
17. **Do not depress the spindle lock when starting or during operation.**
18. **Do not leave the tool unattended when it is plugged into an electrical outlet.** Turn off the tool, and unplug it from its electrical outlet before leaving.
19. **Use clamps (not included) or other practical ways to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control and personal injury.
20. **This product is not a toy.** Keep it out of reach of children.
21. **People with pacemakers should consult their physician(s) before use.** Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure. In addition, people with pacemakers should:
 - Avoid operating alone.
 - Do not use with power switch locked on.
 - Properly maintain and inspect to avoid electrical shock.
 - Any power cord must be properly grounded. Ground Fault Circuit Interrupter (GFCI) should also be implemented – it prevents sustained electrical shock.
22. **WARNING:** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, contains chemicals known [to the State of California] to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - Lead from lead-based paints
 - Crystalline silica from bricks and cement or other masonry products
 - Arsenic and chromium from chemically treated lumber
 Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles. (California Health & Safety Code § 25249.5, *et seq.*)
23. **WARNING:** Handling the cord on this product will expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling. (California Health & Safety Code § 25249.5, *et seq.*)
24. **The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur.** It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Vibration Safety

This tool vibrates during use. Repeated or long-term exposure to vibration may cause temporary or permanent physical injury, particularly to the hands, arms and shoulders. To reduce the risk of vibration-related injury:

1. Anyone using vibrating tools regularly or for an extended period should first be examined by a doctor and then have regular medical check-ups to ensure medical problems are not being caused or worsened from use. Pregnant women or people who have impaired blood circulation to the hand, past hand injuries, nervous system disorders, diabetes, or Raynaud's Disease should not use this tool. If you feel any medical or physical symptoms related to vibration (such as tingling, numbness, and white or blue fingers), seek medical advice as soon as possible.
2. Do not smoke during use. Nicotine reduces the blood supply to the hands and fingers, increasing the risk of vibration-related injury.
3. Wear suitable gloves to reduce the vibration effects on the user.
4. Use tools with the lowest vibration when there is a choice between different processes.
5. Include vibration-free periods each day of work.
6. Let the tool do the work.
7. To reduce vibration, maintain the tool as explained in this manual. If any abnormal vibration occurs, stop use immediately.



SAVE THESE INSTRUCTIONS.

GROUNDING

! WARNING

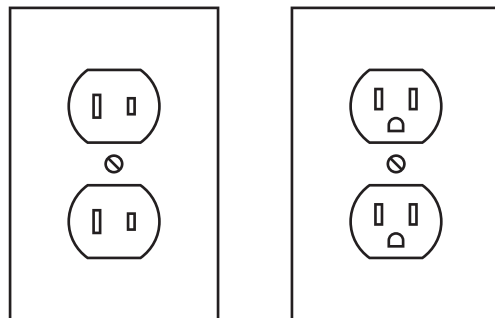
TO PREVENT ELECTRIC SHOCK AND DEATH FROM INCORRECT



GROUNDING WIRE CONNECTION: Check with a qualified electrician if

you are in doubt as to whether the outlet is properly grounded. Do not modify the power cord plug provided with the tool. Never remove the grounding prong from the plug. Do not use the tool if the power cord or plug is damaged. If damaged, have it repaired by a service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

Double Insulated Tools: Tools with Two Prong Plugs



Outlets for 2-Prong Plug

1. Tools marked "Double Insulated" do not require grounding. They have a special double insulation system which satisfies OSHA requirements and complies with the applicable standards of Underwriters Laboratories, Inc., the Canadian Standard Association, and the National Electrical Code.
2. Double insulated tools may be used in either of the 120 volt outlets shown in the preceding illustration. (**See Outlets for 2-Prong Plug.**)

Extension Cords






1. **Grounded** tools require a three wire extension cord. **Double Insulated** tools can use either a two or three wire extension cord.
2. As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with

inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage.

(See Table A.)

3. The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14 gauge cord can carry a higher current than a 16 gauge cord. **(See Table A.)**
4. When using more than one extension cord to make up the total length, make sure each cord contains at least the minimum wire size required. **(See Table A.)**
5. If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size. **(See Table A.)**
6. If you are using an extension cord outdoors, make sure it is marked with the suffix “W-A” (“W” in Canada) to indicate it is acceptable for outdoor use.
7. Make sure the extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.
8. Protect the extension cords from sharp objects, excessive heat, and damp or wet areas.

Symbology

	Double Insulated
	Canadian Standards Association
	Underwriters Laboratories, Inc.
	Volts Alternating Current
	Amperes
n ₀ xxxx/min.	No Load Revolutions per Minute (RPM)

RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS								
NAMEPLATE AMPERES (at full load)	EXTENSION CORD LENGTH							
	25'	50'	75'	100'	125'	150'	175'	200'
0-10.0	18	18	16	16	14	14	12	12
10.1-13.0	16	16	14	14	14	12	12	12
13.1-15	14	14	12	12	12	12	12	-
15-18	14	12	12	12	12	12	-	-

TABLE A

SPECIFICATIONS

Power Source	120V, 60 Hz
RPM - 4 Speeds	6500-10700-14000- 22000 RPM
Collett Sizes	1/8" & 3/32" diameter
Power Cord	7 Ft., 18 AWG x 2C, DBL
Accessories	30 Pieces Carrying Case

Your Rotary Tool Kit can be used as a drill, carver, grinder, polisher and sharpener.

UNPACKING

When unpacking, make sure that the item is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at 1-800-444-3353 as soon as possible.

INSTRUCTIONS FOR PUTTING INTO USE



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.



TO PREVENT SERIOUS INJURY FROM ACCIDENTAL

OPERATION:

Turn the **Power Switch** of the tool off and unplug the tool from its electrical outlet before assembling or making any adjustments to the tool.

Note: For additional information regarding the parts listed in the following pages, refer to the Assembly Diagram near the end of this manual.

Set-Up

Your Rotary Tool will require some set-up prior to operation. To assist you with set-up, please refer to the following instructions. Also see Parts List and Assembly Diagrams near the end of this manual.

It is important that you read the entire manual to become familiar with the unit **BEFORE** you use the Rotary Tool. Before setting-up your Rotary Tool, be sure that you have all parts described in the Parts List.

Assemble attachments based on the intended use of the tool.

Set-up and disassemble your Rotary Tool Set for each use. Put back all pieces in the case provided and store in the case to ensure that no pieces are lost.

To Insert Accessories:

1. Insert Collet (2) into the shaft. Slide the Collet Nut (1) over the Collet. Insert the desired accessory fully into the Collet.
2. Press down on the Shaft Lock button (19) while turning the Collet Nut (1). You will feel the Shaft click into place.
3. With the Shaft locked in place, use the Collet wrench to tighten the Collet Nut.

Note: Some cutting wheels, polishing tips and accessories need to be attached or inserted into another shaft or mandrel to be used. In these cases, please note the following instructions.

4. Thread the accessory onto the screw. Insert the mandrel into Collet. Following the preceding steps, tighten the Collet Nut.

To Remove Accessories:

1. Press down on the Shaft Lock button (19) while turning the Collet Nut (1) counterclockwise. You will feel the Shaft click into place.

2. With the Shaft locked in place, use the Collet wrench to loosen the Collet Nut and remove the accessory.

Work Piece and Work Area Set Up

1. Designate a work area that is clean and well-lit. The work area must not allow access by children or pets to prevent distraction and injury.
2. Route the power cord along a safe route to reach the work area without creating a tripping hazard or exposing the power cord to possible damage. The power cord must reach the work area with enough extra length to allow free movement while working.
3. Secure loose work pieces using a vise or clamps (not included) to prevent movement while working.
4. There must not be hazardous objects, such as utility lines or foreign objects, nearby that will present a hazard while working.
5. You must use personal safety equipment including, but not limited to, ANSI-approved eye and hearing protection, as well as heavy work gloves and work apron.
6. Before beginning work, plan and provide for sparks and debris that will fly off the work surface. **CAUTION:** Always have access to a type AAA fire extinguisher.

Operating Instructions

⚠ WARNING

**TO PREVENT SERIOUS INJURY:
Grip the tool firmly.**

To assist you with operation, please refer to the Assembly Diagram and Parts List near the end of the manual.

Never force the tool or attachment to do the work of a larger industrial tool. It is designed to do the job better and more safely at the rate for which it was intended.

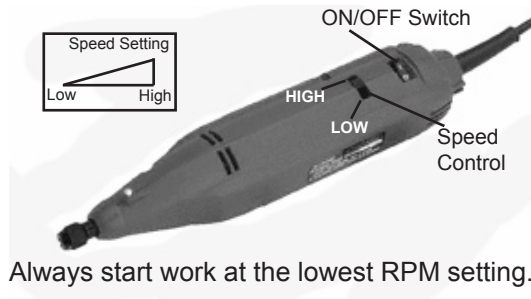
1. For most uses, it is helpful to grasp the tool much like a pencil. This will allow the finest

control of the tool. Before starting on your actual workpiece, practice a similar action (drilling, cutting, polishing) on a scrap piece.

2. Apply only slight pressure. Let the tool do the work. To prevent heat build-up, do not cover the air vents with your hands during use.

Setting the Speed

1. The Rotary Tool has a Speed Control switch which clicks into the different speeds, from highest to lowest. This is the switch next to the ON/OFF switch. The speed is set as indicated on the tool by an arrow. Move the switch to the highest setting for the speed with maximum RPMs (22,000). Each step toward the LOW setting will be the next lowest RPMs: 14000-10700-6500.



2. For most jobs, the tool can be used at the highest speed. Some materials melt at lower temperatures and should be cut at lower speeds. Hard materials like iron or steel should be worked on at high speeds.
3. Turning ON the tool. The Rotary Tool has an ON/OFF switch located toward the rear of the tool. ON is noted by a line (I), and OFF is noted by (O).

MAINTENANCE AND SERVICING



Procedures not specifically explained in this manual must be performed only by a qualified technician.

⚠️WARNING

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL

OPERATION:

Turn the Power Switch to it's OFF

position and unplug the tool from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.

TO PREVENT SERIOUS INJURY FROM TOOL FAILURE:

Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.

Cleaning, Maintenance, and Lubrication

1. **BEFORE EACH USE**, inspect the general condition of the tool. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, damaged electrical wiring, and any other condition that may affect its safe operation.
2. **AFTER USE**, wipe external surfaces of the tool with clean cloth.
3. Periodically blow dust and grit out of the motor vents using dry compressed air. Wear ANSI-approved safety goggles and NIOSH-approved breathing protection while doing this.
4. **⚠️WARNING! If the supply cord of this power tool is damaged, it must be replaced only by a qualified service technician.**

Accessory Storage and Handling

1. Handle accessories carefully to prevent dropping or bumping. Do not use wheels that have been dropped or bumped.
2. Store accessories in the carrying case. Store in a dry area and at above freezing temperature. Any grinding or cut-off wheels exposed to humidity or freezing temperatures must not be used. Keep all accessories out of the reach of children.

Troubleshooting

Problem	Possible Causes	Likely Solutions
Tool will not start.	<ol style="list-style-type: none"> 1. Cord not connected. 2. No power at outlet. 3. Internal damage or wear. (Carbon brushes or switch, for example.) 	<ol style="list-style-type: none"> 1. Check that cord is plugged into 120V outlet. 2. Check power at outlet. If outlet is unpowered, turn off tool and check circuit breaker. If breaker is tripped, make sure circuit is right capacity for tool and circuit has no other loads. 3. Have technician service tool.
Tool operates slowly.	<ol style="list-style-type: none"> 1. Tool is set on slow speed setting. 2. Excess pressure applied to workpiece. 3. Power being reduced by too lengthy or small diameter extension cord. 	<ol style="list-style-type: none"> 1. Increase speed setting. 2. Decrease pressure, allow tool to do the work. 3. Eliminate use of extension cord. If an extension cord is needed, use one with the proper diameter for its length and load. See <i>Extension Cords</i> in <i>GROUNDING</i> section.
Performance decreases over time.	Worn internal components.	Have qualified technician service tool.
Excessive noise or rattling.	Internal damage or wear. (Worn bearings, for example.)	Have technician service tool.
Overheating.	<ol style="list-style-type: none"> 1. Forcing tool to work too fast. 2. Blocked motor housing vents. 3. Motor being strained by too lengthy or small diameter extension cord. 	<ol style="list-style-type: none"> 1. Allow tool to work at its own rate. 2. Wear ANSI-approved safety goggles and NIOSH-approved dust mask/respirator while blowing dust out of motor using compressed air. 3. Eliminate use of extension cord. If an extension cord is needed, use one with the proper diameter for its length and load. See <i>Extension Cords</i> in <i>GROUNDING</i> section.
Tool does not grind, sand or brush effectively.	<ol style="list-style-type: none"> 1. Disc accessory may be loose on Spindle. Check tightness of Collet Nut or threaded disc accessory on Spindle. 2. Disc accessory may be damaged, worn or wrong type for the material. 	<ol style="list-style-type: none"> 1. Be sure disc accessory is of correct dimension and Collet Nut is tight. 2. Check condition and type of disc accessory. Use only proper type of disc accessory. Accessories must be in good condition.



Follow all safety precautions whenever diagnosing or servicing the tool. Disconnect power supply before service.

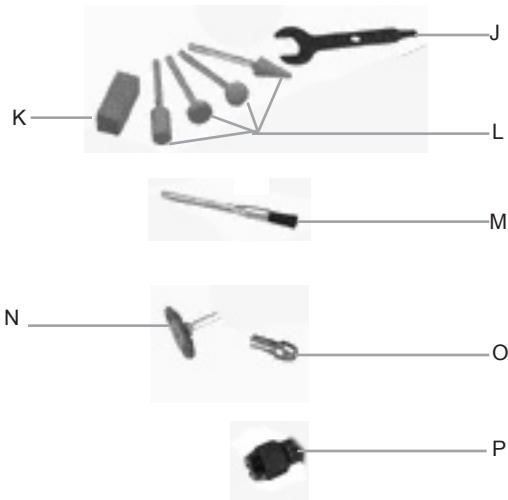
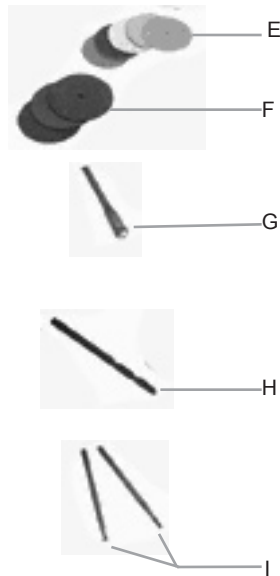
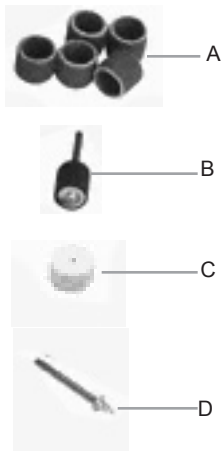
PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

PARTS LIST - ACCESSORIES

Part	Description	Qty.
A	Sanding Drums	5
B	Sanding Drum Holder	1
C	Felt Polishing Pad	1
D	Mandrel	1
E	Sanding Discs	6
F	Cut-Off Discs	3
G	Disc Shaft & Spacing Washers (2)	1
H	Drill Bit	1

Part	Description	Qty.
I	Cylinder Burr & Round Burr	1 set
J	Wrench	1
K	Dressing Stone	1
L	Aluminum Oxide Grinding Stones	4
M	Soft Brush	1
N	Wire Wheel Brush	1
O	Collet 1/16"	1
P	Collet 1/8"	1

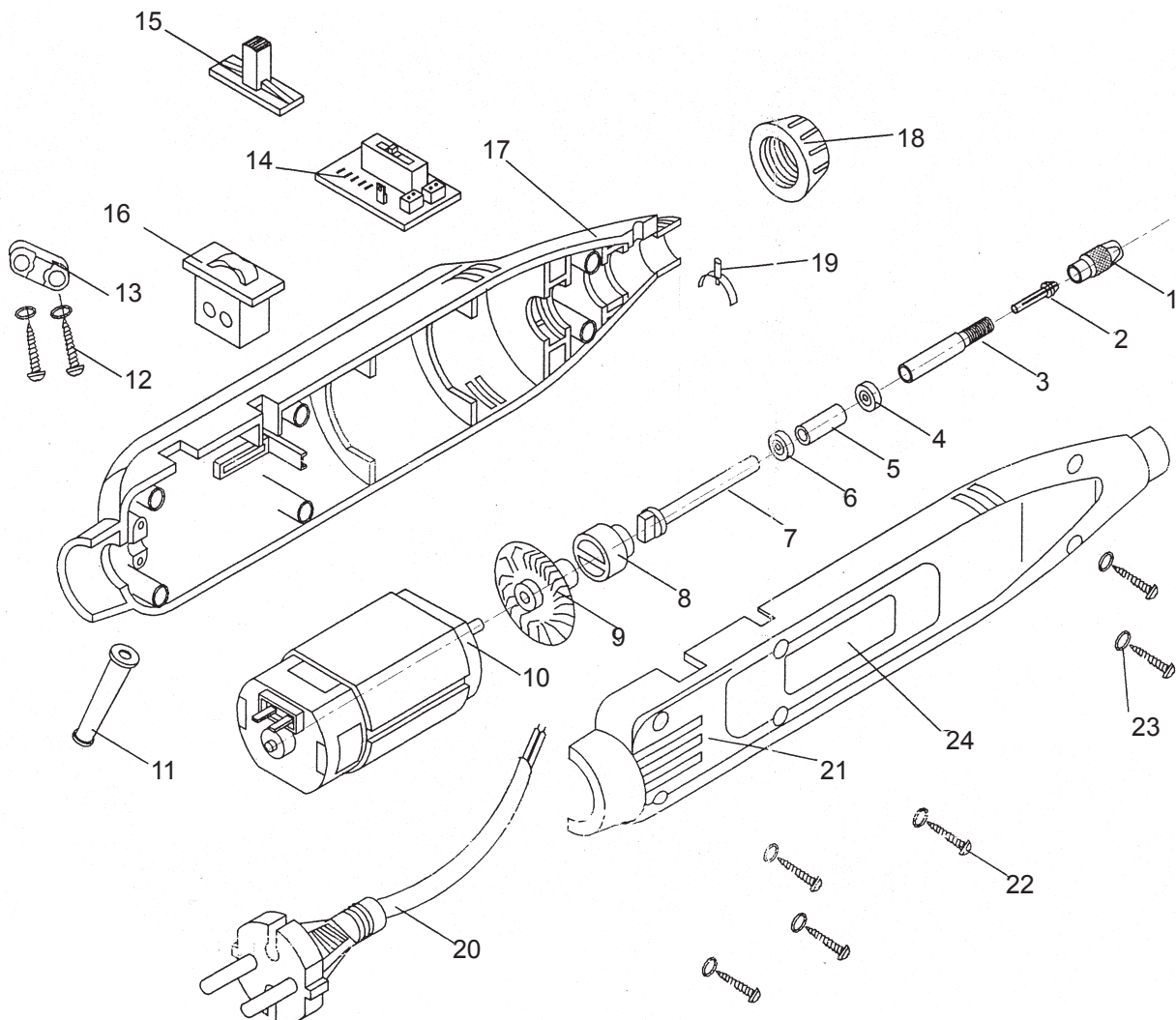


PARTS LIST - DIAGRAM

Part	Description	Qty.
1	Collet Nut	1
2	Collet	1
3	Shaft	1
4	Bearing	1
5	Bushing	1
6	Bearing	1
7	Coupling 2	1
8	Coupling 1	1
9	Fan	1
10	Motor	1
11	Cord Protector	1
12	Self Screw	2

Part	Description	Qty.
13	Cord Strain Release	1
14	V-Speed PCB	1
15	Pusher	1
16	Switch	1
17	Left Shell	1
18	Nut	1
19	Shaft Lock	1
20	Cord	1
21	Right Shell	1
22	Self Screw	6
23	Washer	8
24	Name Plate	1

ASSEMBLY DIAGRAM



LIMITED 90 DAY WARRANTY

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

3491 Mission Oaks Blvd. • PO Box 6009 • Camarillo, CA 93011 • (800) 444-3353

Record Product's Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.